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10/733,037	12/11/2003	Keith J. Purcell	RSW920030159US1	8444
46270 7590 03/13/2009 (SAUL-RSW) PATENT DOCKETING CLERK IBM Corporation (SAUL-RSW) C/O Saul Ewing LLP Penn National Insurance Tower 2 North Second Street, 7th Floor Harrisburg, PA 17101				
EXAMINER				
CHEN, QING				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/733,037

Applicant(s)

PURCELL, KEITH J.

Examiner

Qing Chen

Art Unit

2191

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-9, 12-19 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9, 12-19 and 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office action is in response to the amendment filed on December 3, 2008, entered by the RCE filed on December 30, 2008.
2. **Claims 1, 4-9, 12-19, and 21-26** are pending.
3. **Claims 1, 12, 19, and 23-26** have been amended.
4. **Claims 2, 3, 10, 11, 20, and 27** have been canceled.
5. The objection to the specification is withdrawn in view of Applicant's amendments to the specification.

Continued Examination Under 37 CFR 1.114

6. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 3, 2008 has been entered.

Response to Amendment

Claim Objections

7. **Claims 19 and 21-26** are objected to because of the following informalities:
 - **Claim 19** recites the limitations "said grid" and "said coding module." Applicant is advised to change these limitations to read "said computational grid" and "said selected

coding module,” respectively, for the purpose of providing them with proper explicit antecedent bases.

- **Claims 21-26** depend on Claim 19 and, therefore, suffer the same deficiency as Claim 19.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1, 4-9, 12-19, and 21-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0088688 (hereinafter “**Hejlsberg**”) in view of US 7,185,046 (hereinafter “**Ferstl**”).

As per **Claim 1**, Hejlsberg discloses:

- generating a description of an application (*see Figure 2: 200; Paragraph [0006], “... a file, such as a database mapping description or declaration, is authored by a user or a design tool in a particular data language in which a format can be defined, such as XML. Such an exemplary file is referred to as a blueprint ...”*);

- providing said description to a web service (see Paragraphs [0017], “Blueprints allow the ASP.NET markup-and-code paradigm to be extended to other domains such as user interfaces, database mapping, web services, and compiled extensible stylesheet language (XSL) transforms.” and [0087], “The present invention can be applied to a wide variety of technologies, such as ... web services ...”);
 - parsing said description by said web service (see Paragraph [0035], “Upon receiving the blueprint 200, the blueprint translator 210 parses the blueprint (using, e.g., an XML parser) ...”);
 - supplying said description to said node (see Paragraph [0035], “... provides the parsed blueprint to a Document Object Model (DOM) for further processing. The output of the DOM is provided to a semantic analyzer and code generator. Source code 220 is thereby generated in accordance with predetermined schemas, patterns, and/or hierarchical rules, for example.”);
 - applying said description to said suitable coding module to generate an output object (see Paragraph [0035], “... provides the parsed blueprint to a Document Object Model (DOM) for further processing. The output of the DOM is provided to a semantic analyzer and code generator. Source code 220 is thereby generated in accordance with predetermined schemas, patterns, and/or hierarchical rules, for example.”; Paragraph [0058], “... a blueprint translator can use the CodeDOM (an object model for abstract syntax trees and code generation provided in the System.CodeDom namespace) to generate source code in a language-neutral fashion.”);
- and

- returning said output object (*see Paragraph [0035], "The source code 220 may access or point to a supporting framework or class library 230."*).

However, Hejlsberg does not disclose:

- providing a computational grid comprising a plurality of coding modules, wherein said computational grid includes a plurality of computers sharing computational resources; and
- locating a suitable coding module in a node contained within the computational grid.

Ferstl discloses:

- providing a computational grid comprising a plurality of coding modules, wherein said computational grid includes a plurality of computers sharing computational resources (*see Column 1: 52-59, "A computing grid is a hardware and software infrastructure serving to handle computing jobs submitted by a user. The computing grid may interconnect distributed computers, storage devices, mobile devices, instruments, sensors, data bases and/or software applications. Generally a computing grid may comprise virtually any kind of computing device and includes a grid infrastructure to handle the distribution of computing jobs."*); and
- locating a suitable coding module in a node contained within the computational grid (*see Column 1: 65-67 to Column 2: 1-8, "Upon receiving an instruction to distribute a computing job the grid infrastructure selects a suitable computing device and transfers the computing job to the selected computing device." and "Accordingly, a user or application at a client device may issue an instruction to execute a computing job towards the grid infrastructure which in turn selects a suitable processing element and the processing results are ultimately returned to the client."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ferstl into the teaching of Hejlsberg to include providing a computational grid comprising a plurality of coding modules, wherein said computational grid includes a plurality of computers sharing computational resources; and locating a suitable coding module in a node contained within the computational grid. The modification would be obvious because one of ordinary skill in the art would be motivated to utilize a plural number of computing devices/software applications to quickly solve a single computing task (*see Ferstl – Column 1: 46-50*).

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Hejlsberg further discloses:

- wherein said description is generated using Object Meta Language (OML) (*see Paragraph [0006], “... a file, such as a database mapping description or declaration, is authored by a user or a design tool in a particular data language in which a format can be defined, such as XML. Such an exemplary file is referred to as a blueprint ...”*).

As per **Claim 5**, the rejection of **Claim 4** is incorporated; and Hejlsberg further discloses:

- wherein said OML is an eXtensible Markup Language (XML) dialect (*see Paragraph [0006], “... a file, such as a database mapping description or declaration, is authored by a user or a design tool in a particular data language in which a format can be defined, such as XML. Such an exemplary file is referred to as a blueprint ...”*).

As per **Claim 6**, the rejection of **Claim 1** is incorporated; and Hejlsberg further discloses:

- wherein said suitable coding module is an XML template (*see Paragraph [0047], "In addition, the framework defines a file extension, .dbml, and includes a blueprint translator that can translate .dbml files containing XML-formatted mapping descriptions into source code that targets the framework."*).

As per **Claim 7**, the rejection of **Claim 1** is incorporated; and Hejlsberg further discloses:

- wherein said suitable coding module is an eXtensible Stylesheet Language (XSL) style sheet (*see Paragraph [0017], "Blueprints allow the ASP.NET markup-and-code paradigm to be extended to other domains such as user interfaces, database mapping, web services, and compiled extensible stylesheet language (XSL) transforms."*).

As per **Claim 8**, the rejection of **Claim 7** is incorporated; and Hejlsberg further discloses:

- parsing said description to locate at least one variable (*see Paragraph [0048], "... mapping the Customers table in the database to a Customer class in the Northwind namespace. Further details of the mapping include the CustomerID column that maps to an Id property, the ContactName column that maps to a Name property, etc."*); and

- substituting said at least one variable with at least one replacement variable, wherein said at least one replacement variable is the result of an XML/XSL transform (*see Paragraphs [0048], "... the blueprint calls for an Orders collection to be generated in the Customer class based on the relation between the Customer and Order classes described in the <relation> element."* and [0050], "A blueprint like the one set forth above would typically be generated by

a database design tool, but it could also be authored manually or created by an XML transformation.”).

As per **Claim 9**, the rejection of **Claim 6** is incorporated; and Hejlsberg further discloses:

- parsing said description to locate at least one variable (*see Paragraph [0048], “... mapping the Customers table in the database to a Customer class in the Northwind namespace. Further details of the mapping include the CustomerID column that maps to an Id property, the ContactName column that maps to a Name property, etc.”*); and

- substituting said at least one variable with at least one replacement variable, wherein said at least one replacement variable is stored in said XML template (*see Paragraphs [0048], “... the blueprint calls for an Orders collection to be generated in the Customer class based on the relation between the Customer and Order classes described in the <relation> element.” and [0050], “A blueprint like the one set forth above would typically be generated by a database design tool, but it could also be authored manually or created by an XML transformation.”*).

Claims 12-18 are computer program product claims corresponding to the method claims above (Claims 1 and 4-9) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 1 and 4-9.

As per **Claim 19**, Hejlsberg discloses:

- an input terminal for inputting an application description (*see Figure 1: 110*); and

- a web service for supplying said application description to a selected coding module, wherein said selected coding module generates an object from said application description (see Paragraph [0035], "... provides the parsed blueprint to a Document Object Model (DOM) for further processing. The output of the DOM is provided to a semantic analyzer and code generator. Source code 220 is thereby generated in accordance with predetermined schemas, patterns, and/or hierarchical rules, for example."; Paragraph [0058], "... a blueprint translator can use the CodeDOM (an object model for abstract syntax trees and code generation provided in the System.CodeDom namespace) to generate source code in a language-neutral fashion."; Paragraph [0087], "The present invention can be applied to a wide variety of technologies, such as ... web services ...").

However, Hejlsberg does not disclose:

- a computational grid, wherein said computational grid includes a plurality of computers sharing computational resources, said computational grid comprising a plurality of nodes, each node comprising at least one programming model.

Ferstl discloses:

- a computational grid, wherein said computational grid includes a plurality of computers sharing computational resources, said computational grid comprising a plurality of nodes, each node comprising at least one programming model (see Column 1: 52-67 to Column 2: 1-8, "A computing grid is a hardware and software infrastructure serving to handle computing jobs submitted by a user. The computing grid may interconnect distributed computers, storage devices, mobile devices, instruments, sensors, data bases and/or software applications. Generally a computing grid may comprise virtually any kind of computing device and includes a

grid infrastructure to handle the distribution of computing jobs.” and “Upon receiving an instruction to distribute a computing job the grid infrastructure selects a suitable computing device and transfers the computing job to the selected computing device.” and “Accordingly, a user or application at a client device may issue an instruction to execute a computing job towards the grid infrastructure which in turn selects a suitable processing element and the processing results are ultimately returned to the client.”).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Ferstl into the teaching of Hejlsberg to include a computational grid, wherein said computational grid includes a plurality of computers sharing computational resources, said computational grid comprising a plurality of nodes, each node comprising at least one programming model. The modification would be obvious because one of ordinary skill in the art would be motivated to utilize a plural number of computing devices/software applications to quickly solve a single computing task (see Ferstl – Column 1: 46-50).

As per **Claim 21**, the rejection of **Claim 19** is incorporated; and Hejlsberg further discloses:

- wherein said application description is generated using Object Meta Language (OML) (see Paragraph [0006], “... a file, such as a database mapping description or declaration, is authored by a user or a design tool in a particular data language in which a format can be defined, such as XML. Such an exemplary file is referred to as a blueprint ...”).

As per **Claim 22**, the rejection of **Claim 21** is incorporated; and Hejlsberg further discloses:

- wherein said OML is an eXtensible Markup Language (XML) dialect (*see Paragraph [0006], “... a file, such as a database mapping description or declaration, is authored by a user or a design tool in a particular data language in which a format can be defined, such as XML. Such an exemplary file is referred to as a blueprint ...”*).

As per **Claim 23**, the rejection of **Claim 19** is incorporated; and Hejlsberg further discloses:

- wherein said coding modules are XML templates (*see Paragraph [0047], “In addition, the framework defines a file extension, .dbml, and includes a blueprint translator that can translate .dbml files containing XML-formatted mapping descriptions into source code that targets the framework.”*).

As per **Claim 24**, the rejection of **Claim 19** is incorporated; and Hejlsberg further discloses:

- wherein said coding modules are eXtensible Stylesheet Language (XSL) style sheets (*see Paragraph [0017], “Blueprints allow the ASP.NET markup-and-code paradigm to be extended to other domains such as user interfaces, database mapping, web services, and compiled extensible stylesheet language (XSL) transforms.”*).

As per **Claim 25**, the rejection of **Claim 24** is incorporated; and Hejlsberg further discloses:

- parsing said description to locate at least one variable (*see Paragraph [0048], "... mapping the Customers table in the database to a Customer class in the Northwind namespace. Further details of the mapping include the CustomerID column that maps to an Id property, the ContactName column that maps to a Name property, etc."*); and
- substituting said at least one variable with at least one replacement variable, wherein said at least one replacement variable is the result of an XML/XSL transform (*see Paragraphs [0048], "... the blueprint calls for an Orders collection to be generated in the Customer class based on the relation between the Customer and Order classes described in the <relation> element."* and [0050], *"A blueprint like the one set forth above would typically be generated by a database design tool, but it could also be authored manually or created by an XML transformation."*).

As per **Claim 26**, the rejection of **Claim 23** is incorporated; and Hejlsberg further discloses:

- parsing said description to locate at least one variable (*see Paragraph [0048], "... mapping the Customers table in the database to a Customer class in the Northwind namespace. Further details of the mapping include the CustomerID column that maps to an Id property, the ContactName column that maps to a Name property, etc."*); and
- substituting said at least one variable with at least one replacement variable, wherein said at least one replacement variable is stored in said XML template (*see Paragraphs [0048],*

"... the blueprint calls for an Orders collection to be generated in the Customer class based on the relation between the Customer and Order classes described in the <relation> element." and [0050], "A blueprint like the one set forth above would typically be generated by a database design tool, but it could also be authored manually or created by an XML transformation.").

Response to Arguments

10. Applicant's arguments filed on December 3, 2008 have been fully considered, but they are not persuasive.

In the Remarks, Applicant argues:

a) The prior art of record does not teach or reasonably suggest to an ordinarily skilled artisan the selection of a node out of many nodes that is suited to the particular code generation task at hand. The generic teachings of Ferstl, at best, would suggest merely partitioning a process among multiple computers, which is a very different concept than that of the present invention. In the present invention, the task is not apportioned. Rather, the task is performed by a suitable node.

Examiner's response:

a) Examiner disagrees. With respect to the Applicant's assertion that the prior art of record does not teach or reasonably suggest to an ordinarily skilled artisan the selection of a node out of many nodes that is suited to the particular code generation task at hand, as previously pointed out in the Non-Final Rejection (mailed on 12/07/2007) and the Final Rejection (mailed on

09/03/2008) and further clarified hereinafter, the Examiner respectfully submits that Ferstl clearly discloses “locating a suitable coding module in a node contained within the computational grid” (see *Column 1: 52-67 to Column 2: 1-8*, “A computing grid is a hardware and software infrastructure serving to handle computing jobs submitted by a user. The computing grid may interconnect distributed computers, storage devices, mobile devices, instruments, sensors, data bases and/or software applications. Generally a computing grid may comprise virtually any kind of computing device and includes a grid infrastructure to handle the distribution of computing jobs.” and “Upon receiving an instruction to distribute a computing job the grid infrastructure selects a suitable computing device and transfers the computing job to the selected computing device.” and “Accordingly, a user or application at a client device may issue an instruction to execute a computing job towards the grid infrastructure which in turn selects a suitable processing element and the processing results are ultimately returned to the client.”). Note that Ferstl discloses that a computing grid infrastructure is a hardware and software infrastructure which may interconnect distributed computers and software applications (coding modules). Furthermore, also note that Ferstl discloses that a suitable processing element (suitable coding module) is selected in a computing node contained within the computing grid infrastructure.

Therefore, for at least the reason set forth above, the rejections made under 35 U.S.C. § 103(a) with respect to Claims 1, 12, and 19 are proper and therefore, maintained.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Q. C./

Examiner, Art Unit 2191

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/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191